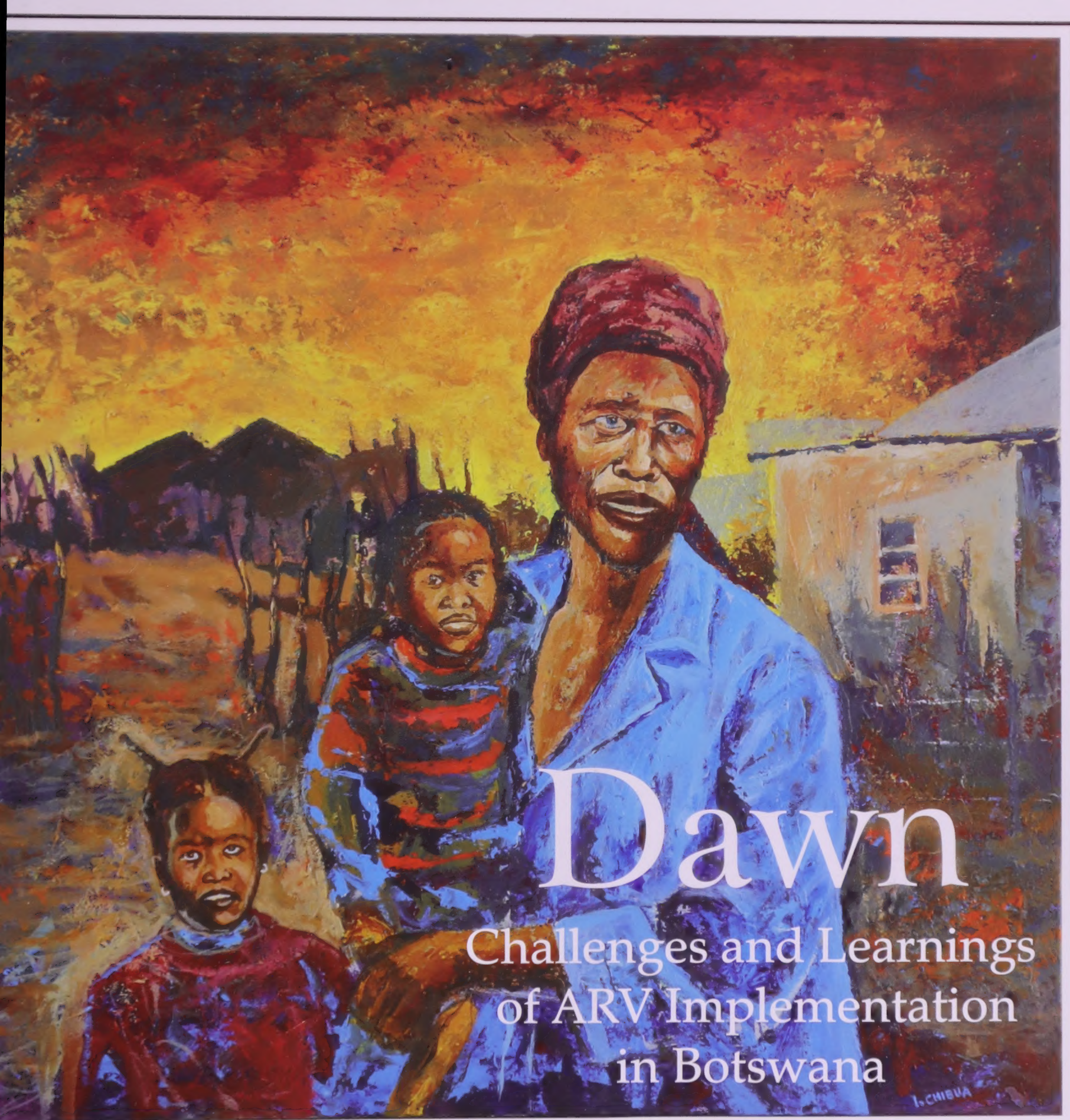
Dawn
Challenges and Learnings
of ARV Implementation
in Botswana
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Enlarging the Circle of our Concern

Joy Phumaphi
Minister of Health, Government of Botswana
Vice Chairperson: National AIDS Council

In 2002, more than three million people worldwide died as a result of HIV/AIDS. UNAIDS estimates 42-million people worldwide are already living with the virus - three quarters of the total death toll of World War II. On the average 2002 day, AIDS killed almost 8500 people - almost three times as many people as had been killed or wounded in the December 1941 attack on Pearl Harbour.

Over the next eight years, UNAIDS estimates a further 45-million people will become infected with HIV in 126 low- and middle-income countries "unless the world succeeds in mounting a drastically expanded, global prevention effort."

There are times when the circles of our concern need to extend beyond ourselves, when the boundaries of our responsibility lie beyond our national borders. Surely, in 2003, the question should not be whether powerful people have a duty to help fight this disease - for evil does still thrive where good people do nothing - but rather how they can be most effective in empowering those who are more vulnerable than they are. Similarly, there can be no doubt that responsible companies also take responsibility for the world they operate in. For them, the question of the hour should be what skills and resources comprise their response ability.

HIV/AIDS recognises no religion, ideology or race. It does not discriminate on social standing. AIDS respects no boundaries. It is a true international evil that can only be stopped through a global alliance.

In Botswana, we realised a number of years ago that fighting the war against HIV/AIDS is not about whether an individual is infected or not. Everybody - companies and organisations as much as ordinary citizens - is affected. The result of this realisation has been a national partnership between the Government of Botswana and a broad spectrum of individuals and organisations, united together by a single-minded commitment to restoring the hope HIV/AIDS has ravaged among our people.

The Government of Botswana also relies on partnerships with the scientific community. Harvard University, for example, is a valuable contributor to the vaccine research, health worker training and patient monitoring tests conducted at Gaborone's world-class laboratory. As importantly, we are supported by a large number of NGOs and community-based organisations to support people living with HIV/AIDS and to help us convey essential messages relating to behaviour change.

Capacity building, infrastructural development, information technology, training and information, education and communication campaigns for the Masa National ARV therapy programme are jointly funded by ACHAP - the Botswana government's joint venture with the Bill & Melinda Gates Foundation and the Merck Company Foundation / Merck & Co., Inc.

However, the circle of concern, too, extends beyond our national borders. We realise the importance of the Botswana experience for the global fight against HIV/AIDS. We therefore remain committed to the closest cooperation possible with the world scientific community as we continue to search together for the most effective, global response to the epidemic.

History will never forgive us if we do not rise above our frustrations daily, to pay our debt to our children, the future of our societies.

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This publication is proudly sponsored by the African Comprehensive HIV/AIDS Partnerships (ACHAP). ACHAP is a joint collaboration of the Government of Botswana, the Bill & Melinda Gates Foundation and The Merck Company Foundation / Merck & Co., Inc.

The information contained in this brochure was valid at the time of going to print, June 2003.

Masa, the Government of Botswana's programme to provide free antiretroviral (ARV) therapy to all Batswana who need it, has returned hope to thousands. Masa, a Setswana word meaning "new dawn", heralds the rising of a dawn over Botswana's struggle against HIV/AIDS, promising renewed hope for Batswana to live longer, healthier lives by providing people living with HIV/AIDS with time to nurture their families and to help build a future for the nation.

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Facing the Challenge

Dr Banu Khan
M.D., MPH
Coordinator: National
AIDS Coordinating Agency
Ministry of State President

Since the first HIV case in Botswana was reported in December 1985, the epidemic has progressed rapidly throughout the country affecting all strata in society. By 2001, the estimated HIV prevalence reached 35.4% among pregnant women attending antenatal clinics (Report of the 2002 Sentinel Surveillance, NACA).

Risk factors

Socio-economic factors including poverty, gender, socio-cultural issues, and population mobility have been identified as key determinants fuelling the rapid spread of HIV in Botswana. Transmission occurs predominantly through heterosexual contact.

The economic impact

A Government of Botswana study conducted in 2000 on the Macroeconomic Impact of HIV/AIDS predicted that over a 25 year period to 2021, the growth rate of Gross Domestic Product (GDP) would fall by 1.5% resulting in a GDP 20% less than what it would have been without HIV/AIDS. This will be caused by a 20% increase in government expenditure mainly for health and welfare. Simultaneously, government revenue is expected to shrink by about 10% through loss of young productive adults.

The Government and people of Botswana have committed themselves publicly and consistently to a bold programme of action to arrest the relentless effects of HIV/AIDS. This commitment is encapsulated in our Vision 2016, which sets out to address the factors that promote the spread of HIV/AIDS.

Our response

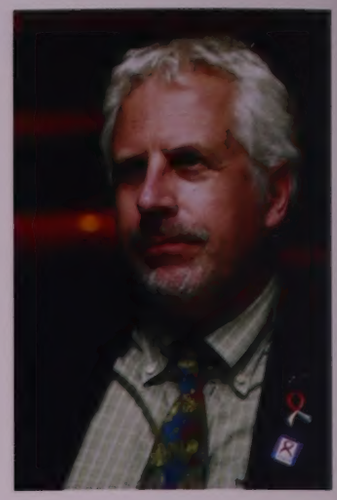
The Government of Botswana's response to HIV/AIDS is comprehensive and coordinated through a number of national bodies, established within a multi-sector conceptual framework established by the Medium Term Plan II 1997-2002 (MTP II). The MTP II has been succeeded by the National Strategic Framework (NSF 2003-2009), which was developed through a broad consultative process involving all sectors of society from village to national level. The NSF was developed in tandem with the country's National Development Plan (NDP-2003-2009) ensuring the mainstreaming of HIV/AIDS in the development process which will achieve effective implementation and action in response to the epidemic.

This response encompasses prevention methods including, vaccine trials, prevention of mother-to-child transmission, condom utilisation and information, education and communication campaigns. The prevention response is linked, through voluntary counselling and testing (VCT) and total community mobilisation, to treatment, through programmes such as the treatment of opportunistic infections and ARV therapy. Additional components of the government's battle against HIV/AIDS are programmes that encourage community-based care, orphan care and the support for people living with HIV/AIDS (PLWHA).

The National AIDS Coordinating Agency

The highest-level policy making body for HIV/AIDS in Botswana is the National AIDS Council (NAC), chaired by the President of Botswana with the National AIDS Coordinating Agency (NACA) as its secretariat. The NAC membership consists of decision-makers from government, the private sector, and civil society. Besides its secretarial services to NAC, NACA is responsible for guiding the expanded multi-sectoral, multi-dimensional national response to HIV/AIDS through coordination, monitoring, advocacy, policy reviews and adjustments, resource mobilisation and institutional capacity building.

ACHAP - Partnership in Action



Dr Donald de Korte
M.D., BSc (Pharm)
ACHAP Project Leader

The African Comprehensive HIV/AIDS Partnerships (ACHAP) is a collaboration between the Government of Botswana (GoB), the Bill & Melinda Gates Foundation, and the Merck Company Foundation/Merck & Co., Inc., to prevent and treat HIV/AIDS in Botswana.

However, ACHAP is built on the same principles and driving forces that make public-private partnerships attractive. It strives to enhance efficiency by cutting through the long lead times necessary for government budgeting processes. It attracts talent that would perhaps not be drawn to government bodies. It retains a lean, flat structure, which allows it to adapt quickly to changing opportunities and requirements. And, perhaps most important of all, it allows its partners real input in programme direction and management - a crucial element for continued funding and sustainability.

Established in July 2000, the partnership supports the goals of the GoB to decrease HIV incidence, while significantly increasing the rate of diagnosis and treatment of the disease. It achieves this by advancing prevention programmes, healthcare access, and patient management, as well as through the treatment of HIV/AIDS with antiretroviral (ARV) medication. The Bill & Melinda Gates Foundation and the Merck Company Foundation have each dedicated US$50 million over five years towards the project. Merck & Co., Inc., is also donating two ARV medicines for appropriate treatment programmes developed by the GoB for the duration of the initiative.

Comprehensiveness is the core of ACHAP's approach to fighting HIV. The partnership supports programmes in the areas of prevention, treatment, care, support and research. No one element alone can defeat HIV/AIDS; all approaches must be sustained simultaneously and work cooperatively.

However, in a society where about a third of the adult population is HIV-positive, only antiretroviral therapy can provide the hope needed to turn the situation around. Masa, the GoB's internationally lauded programme to provide ARV therapy free to all Batswana who need it, has returned hope to thousands. This was achieved despite serious capacity constraints in its first year of existence.

From the outset, ACHAP has played a key role in Masa - specifically in supporting the government by establishing the resources and environment required for large-scale rollout of ARV therapy:

Managerial support

ACHAP has sponsored and provided an Operations Manager for the Masa project who oversees the day-to-day implementation of the programme. The partnership has also provided an Information, Education and Communication (IEC) consultant, as well as public relations and advertising agencies, responsible for guiding the development and implementation of behaviour change strategies, campaigns and materials.

Treatment centres

Many of the treatment facilities - four hospitals and 16 clinics - suffer a critical shortage of space. The partnership has sponsored the construction of four new treatment centres and 16 supporting satellite clinics.

Recruitment

All of Africa suffers a shortage of qualified medical personnel. The lack is painfully felt in Botswana, where the demand on services is at emergency levels. ACHAP has committed to the recruitment of 66 medical and IT personnel to build capacity for the rollout of ARV therapy.

Training

The wide-scale introduction of ARV therapy has necessitated rapid, yet comprehensive training of all healthcare practitioners. ACHAP has responded with two training initiatives: The KITSO AIDS Training Programme, a collaboration of the Botswana Ministry of Health and the Botswana-Harvard AIDS Institute Partnership, provides extensive academic training in HIV/AIDS care and ARV therapy. To date, 984 health professionals and support staff have received training through KITSO. ACHAP has also developed the clinical preceptorship programme, which places HIV/AIDS experts from leading international institutions in Botswana's hospitals and clinics where they provide hands-on training to local healthcare providers. Each expert serves a term of at least three months. 978 healthcare providers have received training through the preceptorship programme.

Laboratory capacity

Until recently, Botswana had no laboratory which could process the large scale tests needed for HIV care. On World AIDS Day 2001, the Botswana HIV Reference Laboratory opened, with the assistance of ACHAP and other partners, in Gaborone. This state-of-the-art laboratory is one of the world's largest and most sophisticated HIV diagnostic and research laboratories.

Information, Education and Communication (IEC)

Behaviour change and patient education are central elements in the administration of ARV therapy. ACHAP funded the information, education and communication (IEC) strategy development, materials and tools for patients, care givers, relatives and the general public. These tools were specifically developed to empower people with the knowledge they would require to make informed choices about ARV therapy, their lives and life-styles.

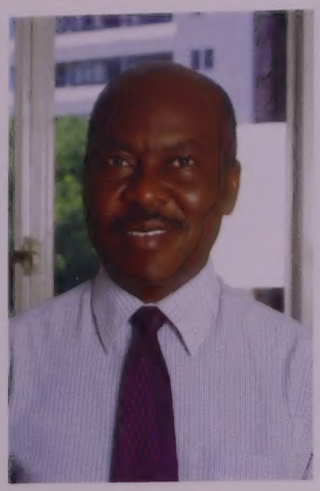
Provision of Medicine

Merck & Co., Inc., an ACHAP partner, also provides two ARV medicines free of cost.

The Masa programme has placed Botswana at the forefront of AIDS interventions in the developing world. In addition to providing hope to people living with HIV/AIDS in this country, we believe it is destined to be the blueprint for intervention in highly infected communities through the public sector. As such, ACHAP is committed not only to document the Botswana experience, but to help share this experience with the world scientific and healthcare management communities. For that reason, we are proud to sponsor this publication and do so in the hope that it will contribute to the global HIV/AIDS body of knowledge.

From Intention to Implementation

Navigating the harsh realities of demand management



Dr P.N. Mazonde
MBchB, MMed (Paeds), Dip-TM&H
Director of Health Services,
Botswana's Ministry of Health

The magnitude of human suffering AIDS would cause and the devastating economic impact the epidemic would have on our people underpinned the decision in 2000 to provide antiretroviral (ARV) medication through the Botswana public healthcare system.

In order to do this we had to undertake a complex process of first assessing potential demand for ARV medication, then quantifying our ability to meet that demand, and ultimately, embarking on a systematic process of narrowing the gap between the two.

The harsh reality was that, notwithstanding our absolute commitment, we simply did not have the capacity to provide ARV therapy to every Motswana who needed it from the outset. We needed to adopt a phased approach, based on demand management.

Assessing the Demand for ARV

In order to assess the demand for ARV therapy, a joint task team comprising officials of the Ministry of Health and experts from the international management consultancy firm, McKinsey & Company was formed to assess the demand for ARV therapy. They first assessed the latent demand - the number of people who would potentially require ARV therapy immediately - if certain treatment criteria were to be put into effect. Latent demand was seen as a more accurate reflection of the disease burden and of the resource requirement than point-of-care demand.

However, this approach did require the team to first determine specific treatment criteria. These criteria had to be optimal in terms of clinical impact, while at the same time ethically sound and equitable.

Extensive literature reviews, interviews with experts and internal debate led the task team to set a CD4 count of 200 or less and/or an AIDS defining illness as treatment criteria. The criteria used in Botswana are in line with the WHO recommended guidelines for resource-constrained countries. Against these treatment criteria, a mutually exclusive comprehensive and exhaustive (MECE) framework for statistically breaking down the population into relevant groups, based on age, gender, CD4 count and the existence or lack of AIDS defining illness was determined. According to the adopted framework, it was determined that 110 000 of the projected 300 000 HIV-positive people in Botswana would be eligible for ARV therapy.

While this figure represented latent demand, it was clear that it was unlikely that the whole patient load would present for therapy as soon as it became available as most people were in fact unaware of their HIV status.

Building a treatment centre in Maun to increase capacity

Assessing Supply

The team had to evaluate all the steps in patient care - from pre-test counselling to ARV therapy adherence counselling - from a human resources and infrastructure supply standpoint. The time, personnel and space requirements of each activity were assessed, along with training needs, requisite drug supply and security and information technology requirements. The team also endeavoured to assess the extent to which high staff shortages and vacancies could be overcome through efficiency measures.

This assessment brought a significant mismatch between supply and demand to light. With the infrastructure and resources of the time, it was impossible to serve the needs of all 110 000 patients requiring ARV therapy.

Given that mismatch, a phased implementation plan was necessary.

Prioritisation of Treatment Groups

After extensive deliberation and analysis, it was decided to launch ARV therapy at strategically located referral facilities. To further deal with the excess demand, the team had to prioritise patient cohorts in order to serve the most urgent needs first and gradually expand provision of therapy as rapidly as the growth in service capacity allowed. To prioritise, the team used four principles: treat the sickest; public health; cost effectiveness; and secure the family.

Application of these principles led the task team to identify four priority groups:

- Pregnant women with CD4 counts of less than 200 and/or AIDS defining illnesses, as well as qualifying partners who fulfilled the same criteria.
- All HIV infected children older than six months who are in-patients in hospitals
- All HIV infected tuberculosis patients with CD4 counts persistently lower than 200, despite initiation of tuberculosis therapy
- All adult in-patients with CD4 counts under 200 and/or AIDS defining illnesses.

Applying these criteria to estimates of catchment area, based on treatment facility referral patterns, the team determined initial demand at the four sites at approximately 19 000 patients.

The Approach to ARV Therapy

The next steps, following the initial demand/supply assessments were to:

- Establish a dedicated implementation team (public/private model) and supporting structures
- Build initial capacity in 4 strategically located centres (Gaborone, Francistown, Maun and Serowe)
- Monitor early uptake and adjust eligibility criteria as necessary
- Build capacity nationwide as rapidly as possible to address the full burden of the disease
- Ensure concurrent strengthening of prevention initiatives

Workstreams, Learnings and Challenges Associated with Launching Botswana's National ARV Programme

Dr Ernest Darkoh
M.D., MPH, MBA
Operations Manager: Masa,
the Government of Botswana's
National ARV Therapy Programme

The sharp contrast between the HIV/AIDS prevalence rates of the developed world and those of developing economies forces us to accept the uneasy truth that the epidemic's proportions relate directly to socio-cultural factors and the capacities of broader healthcare systems to effectively combat it.

While funding remains a major obstacle for effective disease control in the majority of severely affected societies, it would be naïve to believe the challenge HIV poses could be overcome with fiscal commitment alone. Much of the global debate has focused on availability of finance as a means to rapidly increase the availability of HIV/AIDS related services in resource-constrained countries. This is a critical debate that must be continued and solidly addressed in the context of health as well as overall macro-and micro economic development of nations. However, finance is but one of a series of numerous bottlenecks that developing countries will face when it comes to implementing effective national health programmes, be they HIV/AIDS related or not.

Due to its long latency and broad pathological manifestations, HIV/AIDS has dramatically highlighted those systemic inadequacies, many of which existed long before the epidemic even began - consider the fact that malaria still kills more than a million people every year; tuberculosis twice as many. Capacity is largely the sum of commitments past and no amount of money can instantly rectify a heritage of underdevelopment.

Insufficient capacity and socio-cultural barriers emerged early as the main challenges to implementing a national antiretroviral (ARV) programme in Botswana's public health system. Almost a year and a half into the programme, Botswana's ARV programme is rightfully interrogated as to the nature and severity of these capacity constraints. Unfortunately, this may give the impression that all the constraints are specific to ARV therapy. The reality is that HIV/AIDS simply

Testing is the first step to enrolling in the Masa Programme

exacerbates the pre-existing structural and systematic deficits, while creating new ones as incidence continues to increase.

Correcting the imbalance in disease management capacity of the developing world - that is, removing systematic deficits in capacity-constrained societies - needs to be a global concern. The recent outbreak of severe acute respiratory syndrome (SARS) has underlined the impact globalisation and rapidly increasing international travel has had on disease management. In future, our ability to contain epidemics in one state, even a resource-rich country, will increasingly depend on the extent to which that disease is managed elsewhere in the world.

Global effort to develop the necessary capacity to manage HIV/AIDS in a capacity-constrained society holds the gold benefit of laying the foundation for the management of other and future epidemics. As such, HIV/AIDS could truly represent a watershed in the history of disease management.

In order to build the Botswana public healthcare system's capacity to provide ARV therapy to the people who need it, ten critical workstreams have been identified. These are:

- ***Planning and preparation:*** Conducting needs assessments, developing strategies, implementation plans
- ***Monitoring and evaluation:*** Establishing a monitoring and evaluation framework and tools, as well as research protocols
- ***Information, education and communication (IEC):*** Implementing a nation-wide information, education and communication campaign that focuses on mobilising the community
- ***Recruitment:*** Recruiting new staff
- ***Training:*** Training both new and existing staff
- ***Laboratory capacity:*** Establishing laboratory and testing infrastructure
- ***Physical infrastructure:*** Procuring and upgrading space
- ***Information technology:*** Developing and implementing patient, pharmacy and laboratory management information technology systems
- ***Pharmaceutical logistics:*** Setting up drug procurement, storage and distribution systems
- ***Management of ARV therapy services and interfaces:*** Managing the provision of ARV therapy and partner interfaces

Most of these workstreams overlap and therefore need to be implemented concurrently. The order in which they are carried out will vary, depending on a country's initial capacity and asset position. Numerous models can be conceived and developed to address these workstreams, ranging from high-end expensive systems with a high level of specialist intervention to minimalist grassroots models.

However, regardless of the service delivery model that is used, the challenges specific to each of the workstreams must be addressed if ARV therapy is to be successfully introduced and maintained. To date, the Masa programme has enrolled over 9000 patients, of whom more than 6000 are on treatment maintaining a follow-up rate of over 90%.

The following sections address the challenges and key learnings associated with each workstream from an operations management perspective. Naturally, these challenges and learnings are specific to Botswana and may not necessarily apply in all settings. However, the principles are likely to be the same across different countries and we hope that this publication will serve as a resource for programme managers who are implementing programmes in other capacity-constrained environments.

An HIV testing kit used in the VCT Centres

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Policy, planning and preparation

Conducting needs assessments: developing strategies, policies, guidelines, management structures and implementation plans

Challenges

- Lack of adequate precedence in addressing epidemics of such magnitude
- Lack of adequate data for planning purposes
- Need to achieve buy-in across large number of internal stakeholders and partner agencies
- Severe lack of time and high expectations from politicians and general public

Key Learnings

- Depart from overly rigorous approaches/mindsets (existing norm) and develop rapid assessment methodologies
- Have courage to develop contextually appropriate strategies and models that may be radically different from existing practice norms
- Make decisions with minimal data but have a strong risk management strategy worked out before-hand to deal with likely eventualities (common practice in private sector)
- Identify all stakeholders critical for implementation, establish solid communication lines and involve them early on in the planning process
- Implement quickly using a "learn as you go" approach and do not wait to have a "perfect" plan in place before proceeding

Setting up monitoring and evaluation framework/tools and research protocols

Challenges

- Lack of existing frameworks and tools
- Lack of M&E technical expertise (especially with practical experience)
- Heavy reliance on paper-based data management and record keeping systems
- Historical precedent where no patient records are kept in outpatient facilities (all data on outpatient card which patient keeps with them)
- Staff with no time to collect data

Key Learnings

- Focus on a small set of critical indicators initially (despite temptation to have many) and build on this gradually
- Create flexible frameworks since the most critical indicators only emerge after the ARV therapy programme has been running for a while
- Introduce an electronic data management system as early as possible because a paper-based system becomes unmanageable even with a few hundred patients
- Introduce a new cadre of "Data Capture Clerks" where necessary, since staff lack the time/skills to adequately capture data

Information, Education and Communication (IEC) mobilisation

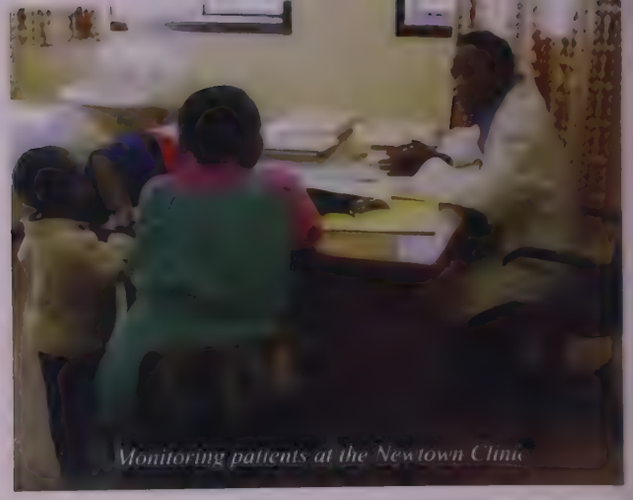
Challenges

- Culture of silence regarding issues of human sexuality
- Highly fatalistic views of community due to lack of therapy and many years of adaptation to the epidemic
- Several stakeholders/partners producing uncoordinated messages
- Strong influence of traditional/spiritual healers and beliefs
- IEC implementation is mostly viewed as "mass media" campaigns

Key Learnings

- Develop succinct set of key messages, align all stakeholders around them, and develop a campaign that continuously reinforces the messages
- Start IEC and community mobilisation early so as to manage expectations and embed key messages
- Educate leaders and managers first so that they can then disseminate messages to broader constituencies
- Train the media and key spokespeople to provide technically sound and accurate information and not focus on sensational aspects
- Hire professional IEC consultants, advertising and PR agencies from private sector, if need be, to support government team
- Develop programmes to bring traditional healers on board as allies rather than as adversaries

A key element of Masa's IEC campaign is an interactive tool, in the format of a flip chart. The tool uses pictures and story-telling to educate and mobilise communities on HIV and ARV therapy. It uses the culturally-relevant analogy of cattle, kraal and termites to describe the immune system, HIV/AIDS and ARV therapy. Like different tools are used to repair a kraal, ARV therapy can restore the health of the immune system.



Monitoring patients at the Newtown Clinic

Recruiting new staff

Challenges

- Qualified staff are a rare commodity and Botswana does not have a medical school
- Brain-drain to developed countries and difficulty competing with international pay scales
- High attrition rates due to illness and death
- Regional restrictions on recruitment of health professionals
- Lengthy recruitment procedures
- Ensuring incentives and schemes of service of new staff do not upset existing staff or cause exodus of staff to greener pastures

Key Learnings

- Leverage international partners to fund or provide staff and technical experts
- Create faster parallel recruitment channels
- Increase efficiency of existing systems: e.g. hire staff on a temporary basis (faster process) and then process them for permanent positions when they are already in the system; make same-day offers to interviewed candidates
- Hire entry level staff wherever possible to minimise internal discord regarding pay and schemes of service
- Ensure any parallel systems created match government pay scales and do not set a destabilising precedent
- Explore ways of devolving responsibility to lower level staff (difficult to accomplish without labour issues arising)

Training of staff

Challenges

- Widespread lack of experience with ARVs across the entire supply chain (treatment, counseling, testing, IT, M&E, project management)
- Lack of pre-existing curriculum for massive scale rapid training of health workers nation-wide
- Need to provide shortest training possible to get health facilities and supply chain functioning
- Freeing up time for training in context of staff shortages, heavy workload, and numerous other training programmes competing for time
- Holding on to trained staff who become more marketable after obtaining skills

Key Learnings

- Use existing training materials to rapidly develop a "bare essentials" curriculum: do not reinvent the wheel
- Train the entire facility (and supply chain) as a unit using a treatment team approach rather than training discrete groups of individuals
- Most rapid way to launch a site is by providing onsite facility-based training through placement of a senior HIV treatment specialist who acts as a preceptor of treatment teams
- Bundle training sessions into an integrated training package where possible (e.g. bundle ARV training with PMTCT and TB) to reduce time away from work
- As yet there is no solution to retaining trained staff especially when competing with developed markets

Establishing laboratory and testing infrastructure

Challenges

- Historic lack of CD4 and viral load testing capacity in the country
- Logistics of transporting samples to one central laboratory from widely distributed geographical sites (within required time limits)
- Logistics of accurately communicating results back to facilities in a timely manner (many facilities lack direct phone lines and do not have fax machines in the labs)

Key Learnings

- Build lab capacity in line with standard of care/practice of the country and what it can afford
- Leverage international partners to provide resources and expertise e.g. construction of lab capacity in Botswana involved ACHAP, Secure the Future (BMS), US CDC and Harvard AIDS Institute
- Form relationships with private companies and the national airline to assist with transportation of samples from distant sites e.g. DHL and Air Botswana

Blood analysis at the Botswana Reference Laboratory, Gaborone

Procuring and upgrading of space and equipment

Challenges

- Widespread shortages of space and equipment (treatment, counseling, laboratory, storage etc)
- Highly centralised tendering and procurement systems for infrastructure works and equipment procurement
- Lack of wide choice of suppliers/builders (few builders with large enough capacity and market currently in a construction "boom")
- Sequencing activities so that the space/equipment is in place in time for training to occur

Key Learnings

- Optimise use of existing space/equipment, since addition of space usually requires addition of staff
- Obtain one-time bulk waiver from Central Tender Board to allow immediate short-listing of suppliers for all ARV project-related infrastructure/equipment procurement activities
- Incorporate extensive lead time into your plans as the drawing up of architectural diagrams, site plans and conducting geotechnical surveys takes much longer than expected
- In the absence of space/equipment being in place on time, staff were sent to other countries to be trained in the interim e.g. laboratory technicians were sent to Uganda for training

Implementing IT systems: patient, pharmacy and lab management

Challenges

- More than 95% of health workers needed basic computer training
- Longstanding familiarity with and dependence on paper-based systems
- Lack of software packages appropriate for understaffed, high workload, high volume settings with low levels of computer skills
- Need to ensure each patient is uniquely identifiable regardless of the site to which they present

Key Learnings

- Develop simplified in-house software package which tracks patient appointments as well as basic demographics, drug utilisation, and clinical/lab information
- First train all relevant staff in basic computer literacy
- Identify a few key people from each site and train them on the software so that they can train others
- Provide consistent onsite support/trouble-shooting visits to the sites to ensure that the system is being used correctly and that data is being entered
- Allow system to be used for 3 to 6 months before making any upgrades (unless critical) since frequent upgrading frustrates staff and is disruptive to workflow

Setting up drug procurement, storage and distribution systems

Challenges

- Providing required level of security and accountability for ARV drugs across the entire supply chain
- Ensuring appropriate temperature and storage conditions for drugs in a country where summer temperatures often reach 42 degrees centigrade

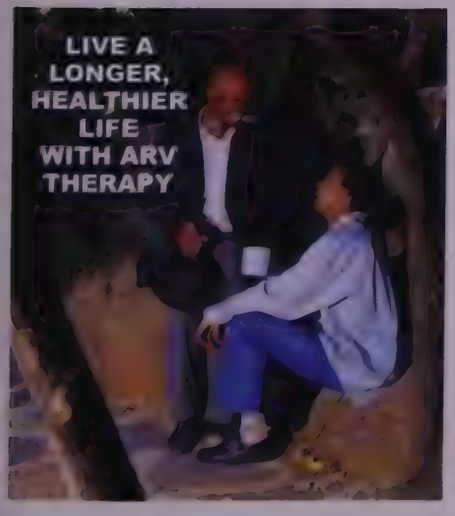
Key Learnings

- Purchase covered, lockable trucks with air conditioning for transportation
- Use and reinforce existing "habit-forming drug" protocols for ARV drugs
- Limit and strictly define the number of people with access to pharmacies
- Refurbish pharmacy storage space at sites with reinforced security systems (burglar bars, ceiling cages, keypad access systems and burglar alarms)
- Ensure patients are taking drugs as prescribed (e.g. pill counts, monitoring dates of prescription pick-up)

Management of ARV therapy services and interfaces

Challenges

- Patients presenting late with advanced disease (5-10 times more resource intensive than initially projected) due to pre-programme backlog, stigma and lack of proactive health seeking behaviour
- Growing queues as a result of burden posed by very sick initial cohort
- Absorbing private practice patients with different eligibility criteria and non- government regimens started prior to the programme
- Staff regularly on leave to care for loved ones, themselves or to attend funerals
- Rolling out programme in the context of capacity constraints
- Lack of adequate precedence with therapies where treatment did not equal cure and necessitated such high levels of adherence



Key Learnings

- Launch an aggressive IEC campaign to get people to come forward earlier and not wait for illness to be the signal to seek testing
- Aggressively implement routine testing and move away from anonymous voluntary counseling and testing (VCT)
- Develop a leveraged system where routine needs are addressed by lower level supervised staff and complex needs by more specialised staff
- Harmonise government treatment guidelines with private practitioners; switch patients to government regimen where it can be done safely; maintain small stock of non-standard regimens for patients who cannot be switched
- Develop self-managing systems by training and empowering ground staff to do as much as possible (more immune from any deficits at central senior management)
- Rollout using existing staff and resources to distribute the workload as widely as possible, concurrently build capacity in the key areas with the most significant gaps
- Focus on easy wins first: e.g. the rollout to Debswana Mining hospital which was already offering ARV therapy on a smaller scale and required minimal additional capacity to scale up for the general public
- Training is the most critical rate determining step for rollout for any given level of capacity
- Patients must be empowered to be accountable for their own health: the government can't do it all

Human Interest Stories

The following interviews were conducted in December 2002

A moral man's dilemma

"Our HIV problem is not one of money or one of information, for that matter. No, our problem lies much deeper. It lies with attitudes."
The Reverand Dr. Obed Kealotswe

I worry about the people of Botswana. I fear our culture has not kept up with modernity. As a result, our morals can no longer protect us.

I always assumed that the strong moral upbringing my wife and I had given our children would protect them against HIV/AIDS. This was not the case. My daughter, Ingrid, and my grandson, Bobo, were diagnosed HIV-positive two years ago. They are both receiving ARV therapy.

I have developed a theory. Our culture's perception of what constitutes a woman, her role and her relationships, is very strong. When a woman is 20 or 25 and she does not have a child, she is out of place. People will gossip that she is a prostitute, or induces abortions. Obviously, safe sex is impossible if you are trying to conceive a child.

This culture is still very strong, even at the University of Botswana where the women are more independent and more empowered. The outdated belief that 'a woman is only a woman if she is also a mother' lives on. The demand for children is silent, but very effective.

An important part of the attitude shift required lies in the roles of women in Botswana. In a society where laws and institutions treat a married woman as a minor, it would be unheard of for a wife to insist that her husband uses a condom. He determines when and how they will have sex, and definitely whether they will be using a condom or not.

The implications of a culture that is out of balance with the times are severe. People say: 'It is only a woman who commits adultery.' Or, they live by another saying: 'A man is like a bull. You cannot fence him in.' I do not have an instant answer, other than the measured conviction that HIV/AIDS will not be overcome in Botswana until society changes its view of womanhood and the attitudes to life and love it inspires.

A family united and living positively in the face of adversity

"I found out that I was HIV-positive in February 2002. When I started ARV therapy my CD4 count was 160. It increased to 193 after two weeks and is now 227. People have been coming up to me to ask what my secret is, because my health is so much better. I tell them I have AIDS but I'm on ARV therapy."
Ester Banyaditse

My partner, Bontika, our daughter, Matshidiso, and I are all HIV-positive. Some might say it is a tragedy, but we have faced our fears and look to the future with hope.

Over the years the biggest challenge I have faced was being courageous enough to go and be tested. One of my children, from a previous relationship, had died and although the symptoms were there I did not want to believe that I could be HIV-positive. It was many years later when I became extremely ill and traditional medicine was unsuccessful that I listened to my doctor's advice and went to Tebelopele to be tested. I was HIV-positive.

The counselling I received made it easier for me to accept my status. I was referred to the hospital to enrol in the Masa ARV therapy programme. When I told Bontika about my status he was very supportive. Two days later, he went to Tebelopele and tested HIV-positive. When Bontika started ARV therapy his CD4 count was 12. Since starting with therapy we are both feeling stronger. We are fighting this fight together and help each other remember to take our medication.

One problem we have encountered is stigma. I lost my job due to discrimination. My supervisor came to the hospital to tell me that I should not bother returning to work when I got well. She was always rude to me and would often pass uncalled for remarks. Our daughter also suffered. In the beginning, people did not like their children playing with her. They all thought that she would give them the virus. Thankfully things have changed. She plays and eats with them with no problems.

Bontika and I have been together since 1996. We are very happy and are planning to be married. There is no sense of blame between us as to who gave the virus to whom. The important thing is that we are together and that ARV therapy has given us a chance to spend time with our family and to continue to contribute to their wellbeing.

Facing HIV and poverty

"I come from a very poor family. My parents owned five cows. On the day my mother demanded that I visit a traditional doctor I knew that I had to tell her that I had the "radio disease". A consultation with a traditional doctor would cost one cow, on my death my parents would need to slaughter another cow, leaving them with only three cows. I could not let them waste one cow on a traditional healer. I had to tell the truth."
Tiny Mmotlana, 37 years old

After the death of my youngest child in 1995, I finally found the courage to be tested for HIV/AIDS. I was HIV-positive. I did not want to believe it. It took me four years to confront my family with this news, and even then, I could not bring myself to tell my father. My mother's reaction astonished me: she said "Tiny, illness is illness and death is death." The sense of relief I felt when I heard those words was overwhelming.

At that time, I decided to move from the cattle post to go and stay with my aunts and uncles. I had heard that if you touched people you might place them at risk, so I decided to disclose my condition to my extended family. My family was incredibly supportive, particularly my aunt who, as a social worker, was able to teach me so much about the disease. The only conflict I experienced was with my brother-in-law.

I was fortunate that I never encountered problems because of the stigma attached to being HIV-positive. There was a time when people would not visit me, but that was due to the sight of me and not because of stigma. I was seriously ill. In February 2002 I started ARV therapy and that, together with the care of my grandmother, aunt and uncle, is making me stronger every day.

Botswana

The semi-arid, landlocked Republic of Botswana is situated in Southern Africa, bordered by South Africa, Namibia, Zimbabwe and Zambia. It is approximately 581 730 square kilometres, about the size of France, with a population of 1.7million. The country is democratically ruled, boasts a growing economy, and a stable political environment. Botswana has some of Africa's last great wildernesses including the famous Okavango Delta and the Kalahari Desert. Botswana is the largest exporter of gemstone diamonds in the world, as well as a large beef exporter to the European Economic Community. The history of Botswana is characterised by migrations of peoples into the country from all directions. The group which eventually emerged as most numerous, and dominant, were the friendly, hospitable and warm-hearted Batswana. Their pattern of dividing and migrating saw the formation of numerous Tswana tribes and their eventual occupation of all areas of the country. The term "Batswana" refers to the ethnic group of people who speak the Setswana language and share the Sotho-Tswana culture, while in its common contemporary usage, it refers to all citizens of the Republic of Botswana, regardless of ethnic background. The singular is "Motswana": a citizen of the country.

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This publication is proudly sponsored by ACHAP - African Comprehensive HIV/AIDS Partnerships.
ACHAP is a joint collaboration of the Government of Botswana, the Bill & Melinda Gates Foundation and The Merck Company Foundation / Merck & Co., Inc. Website: www.achap.org

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"Education is for improving the lives of others
and for leaving your community and world better than you found it."

- Marian Wright Edelman -